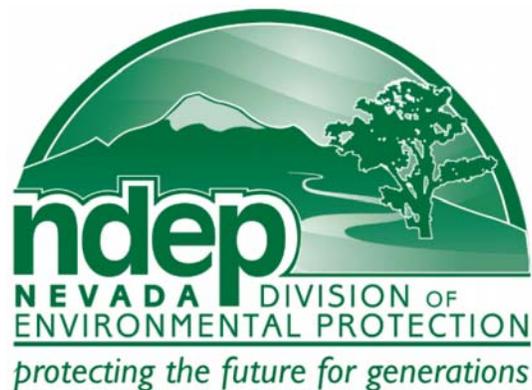


AMBIENT AIR MONITORING NETWORK PLAN 2006



STATE OF NEVADA DIVISION OF ENVIRONMENTAL PROTECTION BUREAU OF AIR QUALITY PLANNING

Contact: Terry R. Hall
Supervisor, Ambient Monitoring
Bureau of Air Quality Planning
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701
(775)-687-9375 or (775)687-6396 fax
email: thall@ndep.nv.gov

Table of Contents

Definition of Terms.....	3
Overview.....	4
Goals.....	4
Background.....	5
Network Design.....	6
Monitoring Sites (map).....	8
Detailed Site Information (tables).....	9-23

Definition of Terms

CAA:	Clean Air Act
AQS:	Air Quality System
BAQP:	Bureau of Air Quality Planning
CFR:	Code of Federal Regulations
CO:	Carbon Monoxide
DCNR:	Department of Conservation and Natural Resources
EPA:	Environmental Protection Agency
FEM:	Federal Equivalent Method
FRM:	Federal Reference Method
IMPROVE:	Interagency Monitoring of Protected Visual Environments
NAAQS:	National Ambient Air Quality Standards
NAC:	Nevada Administrative Code
NDEP:	Nevada Division of Environmental Protection
O ₃ :	Ozone
PM:	Particulate Matter (2.5 or 10 microns)
SLAMS:	State and Local Air Monitoring Stations
SPMS:	Special Purpose Monitoring Stations

Overview

The monitoring program of the Nevada Division of Environmental Protection (NDEP) operates an ambient air quality monitoring network of gaseous and particulate pollutant monitors. The monitors are located in small communities throughout rural Nevada. In the metropolitan areas of Reno and Las Vegas; the Washoe County District Health Department, Air Quality Management Division and the Clark County Department of Air Quality and Environmental Management operate and maintain their respective monitoring networks separate from NDEP and submit their Network Plan independently.

Goals

NDEP created an ambient air quality monitoring program to provide useful and accurate information on air quality, which is used to evaluate the success of the State's air quality programs. The Clean Air Act of 1970, and subsequent amendments, defines air quality standards for various air pollutants necessary to protect the public from injurious pollution concentrations. Air pollution concentrations that exceed these established standards, National Ambient Air Quality Standards (NAAQS), can cause a public health hazard, nuisance, annoyance, or damage to flora, fauna and personal property.

The NAAQS, published by the U.S. EPA, can be found in 40 CFR Part 50 and define the levels of air quality necessary to protect human health and welfare. An area is considered to be in nonattainment for a pollutant if it has violated the NAAQS for that pollutant. The CFR includes procedures for evaluating measured air quality against the NAAQS. State air quality standards can be found in Nevada Administrative Code (NAC) 445B.22097.

Background

The State of Nevada has three jurisdictions which independently manage their own air programs, as designated by Statute. The Department of Conservation and Natural Resources (DCNR), Division of Environmental Protection (NDEP), Bureau of Air Quality Planning (BAQP) is responsible for air quality surveillance in all areas of the State other than Clark and Washoe Counties.

In addition to these three independent monitoring networks, air quality monitoring is being conducted through the Interagency Monitoring of Protected Visual Environments (IMPROVE) network by the federal land management agencies. There is only one IMPROVE monitoring site left in Nevada, at the Jarbidge Wilderness area in northeastern Nevada.

State agencies that conduct ambient monitoring using SLAMS or SPMS, that utilize Federal Reference Methods (FRM) or Federal Equivalent Methods (FEM), must comply with federal quality assurance requirements listed in 40 CFR 58.20, Appendix A. In conjunction with the Network Plan, a BAQP quality assurance plan was developed to form the framework for planning, implementing, assessing and reporting work performed by the BAQP and for implementing quality assurance and quality control tasks.

The Ambient Air Monitoring Program Quality Assurance Project Plan was developed to address quality management as well as quality assurance. The Quality Management Plan (QMP) describes the organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces with those planning, implementing, assessing and reporting activities involving environmental data operations. The Quality Assurance Project Plan (QAPP) defines the policies, procedures, specifications, standards, and documentation necessary to: 1) provide data of adequate quality to meet monitoring objectives, and 2) minimize loss of air quality data due to malfunctions or out-of-control conditions.

Additionally, the BAQP has developed ambient monitoring guidelines in order to ensure that ambient air quality data collected, at regulated facilities in the State, are of the highest quality and conform to federal requirements for quality assurance listed under 40 CFR 58.20.

Ambient air quality monitoring data must certify on an annual basis that those data are accurate and complete. The certification process begins with the complete submittal of all SLAMS data to federal Air Quality System (AQS) for the calendar year. Submittal of data into AQS for 2006 is incomplete due to staffing vacancies. BAQP is hopeful to complete entry of 2006 data into AQS during this calendar year. Precision and accuracy reports and certification of that data should also be accomplished within that time frame.

Network Design

There are currently ten ambient air quality monitoring stations in Nevada under the jurisdiction of BAQP. Air quality monitoring is represented by both SLAMS and SPMS. There are two meteorological stations, one in Carson City and the other in Pahrump. These are used to confirm the local meteorological data from the monitoring stations, modeling and natural events.

Changes to the Network Plan over the next 18 months are anticipated. The Fernley Station is currently monitoring for PM_{2.5} as a SPMS. In the past, O₃ was also monitored at this station, but was discontinued due to equipment failure. The goal is to get O₃ monitoring equipment at the Fernley Station once again this summer. The Long Street Station, a SLAMS, is being considered for a modification due to a site criteria issue. Trees have grown tall over the years, adjacent to this station, and may possibly interfere with monitoring. Access to the monitoring station at Long Street has also become difficult and may have to be moved because of that issue. The Fifth Street Station is equipped with a meteorological station and is being considered as a replacement site for the Long Street Station. This change may take place this summer also.

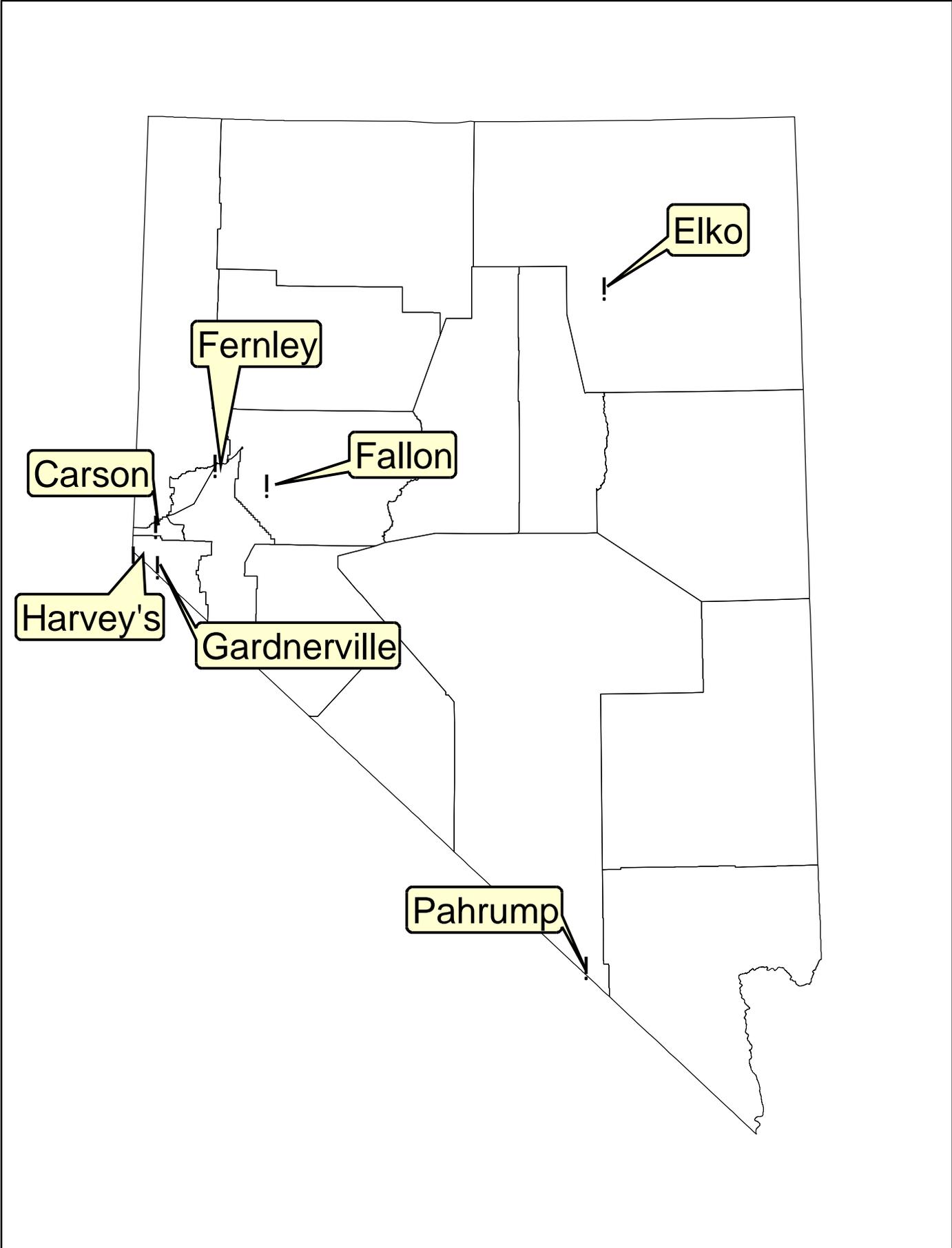
Historically, ambient air quality monitoring by BAQP has looked at trends in air quality to aid in the local planning process. Traffic, wood burning stoves, and growth related activities have prompted air quality monitoring in specific areas around the State. Data from these SPMS has lead to public education and outreach to communities identifying the potential health effects caused by air pollutants in the environment. Ordinances controlling surface area disturbances and other related activities that produce dust have also been implemented with the help of SPMS.

A map showing the location of the monitoring stations maintained by BAQP is provided.

Detailed Site Information

A table showing detailed site information for each monitoring station is provided on the following pages.

Nevada Division of Environmental Protection - Bureau of Air Quality Planning -
Monitoring Network Plan



Detailed Site Information

Elko

Site Name	Elko			
AQS ID	32-007-0004			
GIS coordinates	4,521,520 N; 603,920 E			
Location	State Offices			
Address	850 Elm Street			
County	Elko			
Dist. to road	20 meters			
Traffic count	# Light			
Groundcover	Asphalt			
Representative Area	Rural			
Pollutant	PM10			
Monitor objective	Population Exposure			
Spatial scale	Middle			
Sampling method	Teom 1400AB & Met			
Analysis method	N/A			
Start date	12/10/98			
Operation schedule	Continuous			
Sampling season	All Year			
Probe height	6.4 meters			
Distance from supporting structure	Vertical Distance 1.8			
Distance from obstructions on roof	N/A			
Distance from obstructions not on roof	N/A			
Distance from trees	13.7 meters			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360			
Probe material	N/A			
Residence time	N/A			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow	N/A			

rate verification for manual PM samplers audit				
Frequency of flow rate verification for automated PM analyzers audit	Quarterly			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	3/17/07, 12/6/06 8/18/06, 5/27/06			

Detailed Site Information

Fallon

Site Name	Fallon			
AQS ID	SPMS-No AIRS			
GIS coordinates	4,370,500 N 346,650 E			
Location	On West End Elementary School			
Address	280 South Russell St. Fallon, Nevada			
County	Churchill			
Dist. to road	65 meters			
Traffic count	N/A			
Groundcover	Paved, dirt			
Representative Area	Rural			
Pollutant	O3			
Monitor objective	Population Exposure			
Spatial scale	Middle			
Sampling method	API 400A			
Analysis method	N/A			
Start date	10/01/99			
Operation schedule	Seasonal			
Sampling season	April-October			
Probe height	3.7 meters			
Distance from supporting structure	0.3 meters			
Distance from obstructions on roof	N/A			
Distance from	N/A			

obstructions not on roof				
Distance from trees	4.5 meters			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360			
Probe material	Glass Funnel W/Teflon tubing			
Residence time	4 Seconds			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for manual PM samplers audit	N/A			
Frequency of flow rate verification for automated PM analyzers audit	N/A			
Frequency of one-point QC check (gaseous)	weekly			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	N/A			

Detailed Site Information

Harvey's – Stateline

Site Name	Harvey's Resort & Hotel
AQS ID	32005-0009
GIS coordinates	3,855,723 N 1,195,642 W
Location	1 st level of parking garage facing HWY
Address	Harvey's Resort & Hotel Stateline, NV 89449
County	Douglas, NV
Dist. to road	9 meters

Traffic count	#1,016/day			
Groundcover	Paved -Asphalt			
Representative Area	N/A			
Pollutant	CO			
Monitor objective	Population Exposure			
Spatial scale	Micro			
Sampling method	Dasibi 3008			
Analysis method	N/A			
Start date	10/1/99			
Operation schedule	Continues			
Sampling season	All Year			
Probe height	3.2 meters			
Distance from supporting structure	1 meter Horizontally			
Distance from obstructions on roof	N/A			
Distance from obstructions not on roof	N/A			
Distance from trees	4 meter			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	270 degrees			
Probe material	Teflon			
Residence time	8 seconds			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for manual PM samplers audit	N/A			
Frequency of flow rate verification for automated PM analyzers audit	N/A			
Frequency of one-point QC check (gaseous)	Bi-weekly			
Last Annual Performance Evaluation (gaseous)	N/A			

Last two semi-annual flow rate audits for PM monitors	N/A			
---	-----	--	--	--

Detailed Site Information Fernley

Site Name	Fernley			
AQS ID	SPMS- No AIRS			
GIS coordinates	4,385,870 N 307,080 E			
Location	Fernley, NV			
Address	320 Hardie Lane, Fernley, NV			
County	Lyon County			
Dist. to road	220 meters			
Traffic count	N/A			
Groundcover	Paved -Asphalt			
Representative Area	Rural			
Pollutant	PM 2.5			
Monitor objective	Population Exposure			
Spatial scale	Middle			
Sampling method	GT-640			
Analysis method	N/A			
Start date	6/08/99			
Operation schedule	Continuous			
Sampling season	All Year			
Probe height	6 Meters			
Distance from supporting structure	1.5 Vertical meters			
Distance from obstructions on roof	N/A (Elevated)			
Distance from obstructions not on roof	N/A			
Distance from trees	15 Meters			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360 Degrees			
Probe material	Aluminum			
Residence time	3 Seconds			
Will there be changes within the	Yes			

next 18 months?				
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for manual PM samplers audit	N/A			
Frequency of flow rate verification for automated PM analyzers audit	Bi-weekly			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	N/A			

Detailed Site Information

Long Street – Carson

Site Name	Long Street			
AQS ID	32-510-0004			
GIS coordinates	4,339,418 N; 261,632 E			
Location	Sierra Pacific Power Company Yard			
Address	875 E. Long Street			
County	Carson			
Dist. to road	70 meters-North 70meters West			
Traffic count	Heavy			
Groundcover	Paved, gravel			
Representative Area	Rural			
Pollutant	O3	PM2.5	CO	
Monitor objective	Population exposure	Population exposure	Population Exposure	
Spatial scale	middle	middle	Middle	
Sampling method	API 400 Photometric	Met-One ES-640 Forward light scattering detector	API 300 Gas Correlation	
Analysis method	N/A	NA	NA	
Start date	1/1/97	1/6/99	1/1/97	
Operation schedule	Continuous	Continuous	Continuous	
Sampling season	April to Nov.	All year	All year	
Probe height	4.6 meters	5 meters	4.6 meters	
Distance from	Vertical distance	Vertical distance	Vertical distance	

supporting structure	above 2.1meters	above 3.0 meters	above 2.1 meters	
Distance from obstructions on roof	N/A	N/A	N/A	
Distance from obstructions not on roof	3 meters	3 meters	3 meters	
Distance from trees	3 meters	3 meters	3 meters	
Distance to furnace or incinerator flue	N/A	N/A	N/A	
Distance between collocated monitors	N/A	N/A	N/A	
Unrestricted airflow	270 degrees	270 degrees	270 degrees	
Probe material	Teflon	N/A	Teflon	
Residence time	3 seconds	N/A	3 seconds	
Will there be changes within the next 18 months?	Yes	Yes	Yes	
Is it suitable for comparison against the annual PM2.5?	N/A	No, Continuous Trend	N/A	
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A	N/A	
Frequency of flow rate verification for automated PM analyzers audit	N/A	Bi-weekly,	N/A	
Frequency of one-point QC check (gaseous)	Weekly	N/A	Weekly	

Detailed Site Information

5th Street –Carson

Site Name	5 th Street
AQS ID	32-510-0002
GIS coordinates	East 264,100 North 4,338,675
Location	Carson City
Address	3300 East Fifth Street
County	Carson
Dist. to road	10 meters
Traffic count	Light
Groundcover	Dirt
Representative Area	Rural

Pollutant	Met Site only			
Monitor objective	Modeling, Natural Events and Confirmation			
Spatial scale	middle			
Sampling method	N/A			
Analysis method	N/A			
Start date	1/1/89			
Operation schedule	Continuous			
Sampling season	All Year			
Probe height	10 meters			
Distance from supporting structure	Vertical distance above 7 meters			
Distance from obstructions on roof	N/A			
Distance from obstructions not on roof	N/A			
Distance from trees	N/A			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360 degrees			
Probe material	N/A			
Residence time	N/A			
Will there be changes within the next 18 months?	Yes			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for manual PM samplers audit	N/A			
Frequency of flow rate verification for automated PM analyzers audit	N/A			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			

Detailed Site Information Gardnerville Rancho's

Site Name	Gardnerville Rancho's			
AQS ID	32-005-0007			
GIS coordinates	East 263,055 North 4,308,400			
Location	Aspen Park maintenance yard			
Address	820 Lyell Way			
County	Douglas			
Dist. to road	12 meters East, 100meters South 200meters North			
Traffic count	Light			
Groundcover	Gravel			
Representative Area	Rural			
Pollutant	PM 2.5			
Monitor objective	Population exposure			
Spatial scale	middle			
Sampling method	Met-One BAM 1020			
Analysis method	N/A			
Start date	7/98			
Operation schedule	Continuous			
Sampling season	All year			
Probe height	3 meters			
Distance from supporting structure	Vertical distance above 1.5 meters			
Distance from obstructions on roof	N/A			
Distance from obstructions not on roof	4 meters			
Distance from trees	N/A			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360 degrees			
Probe material	Aluminum			
Residence time	N/A			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for	N/A			

manual PM samplers audit				
Frequency of flow rate verification for automated PM analyzers audit	Monthly			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	N/A			

Detailed Site Information Church Site -Pahrump

Site Name	Church Site			
AQS ID	32-023-0013			
GIS coordinates	East 590,283 North 4,002,120			
Location	Pahrump			
Address	781 E. Gamebird			
County	Nye			
Dist. to road	100 Meters			
Traffic count	N/A			
Groundcover	Desert			
Representative Area	Rural			
Pollutant	PM-10			
Monitor objective	Population exposure			
Spatial scale	Urban			
Sampling method	BAM-1020			
Analysis method	N/A			
Start date	2/14/04			
Operation schedule	Continuous			
Sampling season	All Year			
Probe height	4 meters			
Distance from supporting structure	Vertical distance above 2 meters			
Distance from obstructions on roof	N/A			
Distance from obstructions not on roof	10 meters			
Distance from	N/A			

trees				
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360 degrees			
Probe material	Aluminum			
Residence time	N/A			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for manual PM samplers audit	N/A			
Frequency of flow rate verification for automated PM analyzers audit	Monthly			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	3/06/07 12/07/06 9/19/06 6/06/06			

Detailed Site Information Manse Elementary -Pahrump

Site Name	Manse Elementary			
AQS ID	32-023-0014			
GIS coordinates	East 590,102 North 4,009,186			
Location	Pahrump			
Address	1020 E. Wilson Rd			
County	Nye			
Dist. to road	50 meters South, 100 meters South East, 68 meters South West			
Traffic count	3,000 /day			
Groundcover	Gravel school yard			
Representative Area	Rural			
Pollutant	PM-10	Met-site		
Monitor objective	Population	Modeling, Natural		

	exposure	Events and Confirmation		
Spatial scale	middle	middle		
Sampling method	BAM-1020	N/A		
Analysis method	N/A	N/A		
Start date	11/17/05	04/09/03		
Operation schedule	Continuous	Continuous		
Sampling season	All Year	All Year		
Probe height	5 meters	10 meters		
Distance from supporting structure	Vertical distance above 1 meter	Vertical distance above 7 meters		
Distance from obstructions on roof	N/A	N/A		
Distance from obstructions not on roof	N/A	N/A		
Distance from trees	7&10 meters	N/A		
Distance to furnace or incinerator flue	N/A	N/A		
Distance between collocated monitors	N/A	N/A		
Unrestricted airflow	360 degrees	360 degrees		
Probe material	Aluminum	N/A		
Residence time	N/A	N/A		
Will there be changes within the next 18 months?	No	No		
Is it suitable for comparison against the annual PM2.5?	N/A	N/A		
Frequency of flow rate verification for manual PM samplers audit	N/A	N/A		
Frequency of flow rate verification for automated PM analyzers audit	Monthly	N/A		
Frequency of one-point QC check (gaseous)	N/A	N/A		
Last Annual Performance Evaluation (gaseous)	N/A	N/A		
Last two semi-annual flow rate audits for PM monitors	03/06/07 12/07/06 09/20/06 06/6/06	N/A		

Detailed Site Information

Willow Creek Golf Course

Site Name	Willow Creek Golf Course			
AQS ID	32-023-0012-81102-1			
GIS coordinates	East 589491 North 4005974			
Location	Pahrump			
Address	1500 Red Butte			
County	Nye			
Dist. to road	200 Meters			
Traffic count	N/A			
Groundcover	Grass			
Representative Area	Rural			
Pollutant	PM-10			
Monitor obj	Population exposure			
Spatial scale	Middle			
Sampling method	BAM-1020			
Analysis method	N/A			
Start date	11/20/03			
Operation schedule	Continuous			
Sampling season	All Year			
Probe height	5 meters			
Distance from supporting structure	Vertical distance above 2 meters			
Distance from obstructions on roof	N/A			
Distance from obstructions not on roof	N/A			
Distance from trees	12 meters			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360 degrees			
Probe material	Aluminum			
Residence time	N/A			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM _{2.5} ?	N/A			
Frequency of flow	N/A			

rate verification for manual PM samplers audit				
Frequency of flow rate verification for automated PM analyzers audit	Monthly			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	3/7/07, 12/7/06, 9/19/06, 6/6/06			

Detailed Site Information

Linda Street - Pahrump

Site Name	Linda St.			
AQS ID	32-023-0011-81102-1			
GIS coordinates	East 116.014 North 36.358			
Location	Pahrump			
Address	8825 N. Linda			
County	Nye			
Dist. to road	20 Meters			
Traffic count	N/A			
Groundcover	Desert			
Representative Area	Rural			
Pollutant	PM-10			
Monitor obj	Population exposure			
Spatial scale	Regional			
Sampling method	BAM-1020			
Analysis method	N/A			
Start date	5/23/03			
Operation schedule	Continuous			
Sampling season	All Year			
Probe height	6 meters			
Distance from supporting structure	Vertical distance above 3 meters			
Distance from obstructions on roof	N/A			
Distance from obstructions not on	10 meters			

roof				
Distance from trees	NA			
Distance to furnace or incinerator flue	N/A			
Distance between collocated monitors	N/A			
Unrestricted airflow	360 degrees			
Probe material	Aluminum			
Residence time	N/A			
Will there be changes within the next 18 months?	No			
Is it suitable for comparison against the annual PM2.5?	N/A			
Frequency of flow rate verification for manual PM samplers audit	N/A			
Frequency of flow rate verification for automated PM analyzers audit	Monthly			
Frequency of one-point QC check (gaseous)	N/A			
Last Annual Performance Evaluation (gaseous)	N/A			
Last two semi-annual flow rate audits for PM monitors	3/7/07, 12/7/06, 9/20/06, 6/6/06			